Please note that there is only one respondent to this form: the person that performs the course analysis.

**Course analysis carried out by (name, e-mail):**
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**COURSE DESIGN**
Briefly describe the course design (learning activities, examinations) and any changes that have been implemented since the last course offering.

The course has 12 lectures, 3 web-based laboratory sessions, 6 written assignments, and 1 project. Assignments 1 (project draft), 4 (final project report), 5 (presentations slides) and 6 (presentation poster) are written by the project members and related to the project. Assignments 2 and 3 are individual paper reviews. Both paper reviews are evaluated by peers under the supervision of the course responsible. This year project groups consisted of 3 or 4 people.

**THE STUDENT’S WORKLOAD**
Does the students’ workload correspond to the expected level (40 hours/1.5 credits)? If there is a significant deviation from the expected, what can be the reason?

The course is 7.5 ECTS, so students are expected to dedicate 200 hours of work. Course started on 26.08.2019 and ended with the final project presentation on the 23.10.2019, for a total of 8.5 weeks (23.5 hours/week). 63% of respondents reported on average 6 to 14 hours/week. The average is approximately 10 hours/week.

**THE STUDENTS’ RESULTS**
How well have the students succeeded on the course? If there are significant differences compared to previous course offerings, what can be the reason?

The grade distribution of the 68 students for whom results have been registered in Ladok by end of November 2019:
A: 31 students
B: 33 students
C: 4 students
D: none
10 students did not start the course, interrupt it, or did not yet complete all assignments.

The grade distribution remains similar compared to last year.
OVERALL IMPRESSION OF THE LEARNING ENVIRONMENT
What is your overall impression of the learning environment in the polar diagrams, for example in terms of the students' experience of meaningfulness, comprehensibility and manageability? If there are significant differences between different groups of students, what can be the reason?

The course evaluation was submitted by 27 out of 78 registered students (37%).

The great majority of responses are positive. The lowest average score is 4.9, where 4 is neutral. This is the only score below 5.

The detailed list of score and their change compared with last year is as follows:

Q1: 6.1 (-0.1) I worked with interesting issues
Q2: 5.1 (-0.6) I explored parts of the subject on my own
Q3: 5.1 (-0.2) I was able to learn by trying out my own ideas
Q4: 5.6 (+0.1) The course was challenging in a stimulating way
Q5: 4.9 (-0.7) I felt togetherness with others on the course
Q6: 6.1 (+0.2) The atmosphere on the course was open and inclusive
Q7: 5.6 (-0.2) The intended learning outcomes helped me to understand what I was expected to achieve
Q8: 5.3 (-0.3) I understood how the course was organized and what I was expected to do
Q9: 6.0 (+0.4) I understood what the teachers were talking about
Q10: 6.1 (+0.8) I was able to learn from concrete examples that I could relate to
Q11: 5.7 (+0.7) Understanding of key concepts had high priority
Q12: 5.3 (+0.1) The course activities helped me to achieve the intended learning outcomes efficiently
Q13: 4.8 (-0.8) I understood what I was expected to learn in order to obtain a certain grade
Q14: 4.3 (-0.7) I received regular feedback that helped me to see my progress
Q15: 5.3 (+0.1) I could practice and receive feedback without being graded
Q16: 5.1 (-0.4) The assessment on the course was fair and honest
Q17: 5.7 (+0.3) My background knowledge was sufficient to follow the course
Q18: 5.2 (-0.2) I regularly spent time to reflect on what I learned
Q19: 5.6 (-0.3) I was able to learn in a way that suited me
Q20: 4.3 (-0.6) I had opportunities to choose what to do
Q21: 5.6 (-0.1) I was able to learn by collaborating and discussing with others
Q22: 5.7 (-0.1) I was able to get support if I needed it

In this year's evaluation, female students seem to rate the course lower than male students for most questions. As this is exactly opposite of last year this is most likely a random fluctuation.

The ratings of the former are mostly "0" (neutral), but since this is consistantly one of the lower ratings in the course, a strategy should be found to improve here. Regarding the latter, lack of project supervisor support seemed to be once more the cause for low rating by a small number of students.

ANALYSIS OF THE LEARNING ENVIRONMENT
Can you identify some stronger or weaker areas of the learning environment in the polar diagram - or in the response to each statement - respectively? Do they have an explanation?

The weaker areas seem to relate to communication issues, and too little opportunity to choose individual topics. The former may be explained by the high teaching load of the course responsible, which definitely constrained my resources to keep contact with students and supervisors. For next year, an additional assistant is included in the course to alleviate this problem. The latter can be addressed by giving students the opportunity to choose even lab subjects themselves, in addition to the choice of the project topic that they already have.

ANSWERS TO OPEN QUESTIONS
What emerges in the students' answers to the open questions? Is there any good advice to future course participants that you want to pass on?

Positive comments mention the variety of teachers and quality of lectures, the positive learning aspect of the projects, and quality of online labs.

The only re-appearing negative comment regards the limited time for the project work.
PRIORITY COURSE DEVELOPMENT
What aspects of the course should primarily be developed? How could these aspects be developed in the short or long term?
- Additional assistant to share administrative load.
- More flexibility in the labs regarding choice of subjects. Maybe the labs should be graded and contribute to the overall course result.
- Try to shift the project start to the earliest point possible.

OTHER INFORMATION
Is there anything else you would like to add?
- Advices to the future students:
  - Attend the lectures.
  - Start the project work early.